

In The Claims:

8. (Amended) An apparatus for rapid acquisition of a specific subscriber comprising:

a stratospheric transponder platform having an antenna for one of transmitting and receiving a beam; and

a ground station coupled to the stratospheric transponder platform wherein the ground station comprises a beamformer for zooming a beam corresponding to an area of a cell cluster within a partition containing a plurality of cell clusters and scanning the beam to aim at one of the plurality of cell clusters that includes the specific subscriber wherein each of the plurality of cell clusters includes at least one of a plurality of cells.

12. (New) A method for rapid acquisition of a specific subscriber comprising the following steps:

(a) defining a coverage area as an arrangement of a plurality of cells wherein one of the plurality of cells is a specific subscriber cell including the specific subscriber;

(b) partitioning the plurality of cells into cell clusters each formed from more than one of the plurality of cells wherein one of the cell clusters includes the specific subscriber cell;

(c) forming a beam that corresponds to an area of one of the cell clusters;

(d) scanning the beam to the one of the cell clusters that includes the specific subscriber;

(e) partitioning the one of the cell clusters that includes the specific subscriber into a second plurality of cell clusters;

(f) zooming the beam to form a beam that corresponds to an area of one of the second plurality of cell clusters; and

(g) scanning the beam to one of the second plurality of cell clusters that includes the specific subscriber.

(h) determining a location of the specific subscriber cell in response to scanning the beam to one of the second plurality of cell clusters that includes the specific subscriber.

13. (New) The method of claim 12 wherein partitioning the plurality of cells comprises partitioning the plurality of cells in response to a traffic model.

14. (New) The method of claim 12 wherein partitioning the plurality of cells into cell clusters comprises partitioning the plurality of cells into clusters each having an equal number of cells.

15. (New) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes the specific subscriber generating a locating signal;

defining at least a first cell cluster and second cell cluster within the plurality of cells;

zooming a beam to a first size;

identifying the first cell cluster when the locating signal is received therefrom;

partitioning the first cell cluster into a third cell cluster and a fourth cell cluster;

zooming the beam to a second size;

thereafter, confirming the specific subscriber is within the third cell cluster in response to the locating signal; and;

partitioning and zooming until a location of the specific subscriber is determined.

16. (New) The method of claim 15 wherein zooming a beam to a first size comprises zooming a beam to a first size corresponding to an area of the first cell cluster or the second cell cluster.

17. (New) The method of claim 15 wherein zooming the beam to a second size comprises zooming a beam to a second size corresponding to an area of the third cell cluster or the fourth cell cluster.

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18. (New) The method of claim 15 wherein partitioning the plurality of cells comprises partitioning the plurality of cells into an equal number.

19. (New) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber cell having a specific subscriber therein; and
partitioning the cells into progressively smaller clusters; and
zooming and scanning a beam to the progressively smaller clusters until a location of said specific subscriber cell is determined.

20. (New) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber generating a locating signal;
defining a first cell cluster from the plurality of cells according to a traffic model;

zooming a beam to a first size corresponding to the first cell cluster;
confirming that the specific subscriber is within the first cell cluster;
partitioning the first cell cluster into a second cell cluster and a third cell cluster;

zooming the beam to a second size;
thereafter, confirming that the specific subscriber is within the third cell cluster; and

partitioning and zooming until a location of the specific subscriber cell is determined.

21. (New) The method of claim 20 wherein confirming that the specific subscriber is within the first cell cluster comprises receiving the locating signal from the user.

22. (New) The method of claim 20 wherein zooming the beam to a second size comprises zooming the beam to a second size corresponding to the third cell cluster.

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23. (New) A method for rapid acquisition of a specific subscriber comprising:

defining a coverage area having a plurality of cells wherein one of the plurality of cells includes a specific subscriber having a first acquisition code address and a second acquisition code address associated therewith;

performing a first acquisition method and a second acquisition method in parallel until a location of a specific subscriber cell is determined, wherein

performing a first acquisition method comprises

using a first acquisition code address, partitioning the cells into first progressively smaller clusters; and

zooming and scanning a first beam to the first progressively smaller clusters; and

performing a second acquisition method comprises

using a second acquisition code address, partitioning the cells into second progressively smaller clusters according to a traffic model; and

zooming and scanning a second beam to the second progressively smaller clusters.

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